

2.4 Review Rational Expressions 2017-18

Name _____ Date _____ Period _____

Write the expression in reduced form. Show work!

1. $\frac{21x^3}{3x}$

2. $\frac{12st-4s}{9t-3}$

3. $\frac{8x^3-1}{12x^2+6x+3}$

Simplify each expression by multiplying or dividing. Show work!

4. $\frac{6}{x-3} \cdot \frac{x^2-9}{12x+18}$

5. $\frac{x^2-2x-8}{x^2+x-20} \cdot \frac{3x^2-3x}{x^2+x-2}$

6. $\frac{5xy^3}{2x^2-8} \div \frac{15x^2y}{(x-2)^2}$

7. $\frac{9x^2-4}{2y^2-2y} \div \frac{3x^2+7x-6}{y^2-1}$

Perform the indicated operation, if possible simplify. Show work!

8. $\frac{3}{s+2} + \frac{1}{s-4}$

9. $\frac{x-5}{x+7} - 3$

$$10. \frac{x^2+5x-7}{x^2+x-12} - \frac{3x-2}{x+4}$$

$$11. \frac{3x}{x-5} - \frac{8}{4x+1}$$

Solve the equation algebraically. Show the restrictions and then identify any extraneous solutions. Show work!

$$12. x+3 = \frac{10}{x}$$

$$13. \frac{1}{3p^2+3p} - \frac{1}{3p} = \frac{1}{3}$$

$$14. \frac{x}{x-2} + \frac{3}{x-1} = 1$$

$$15. \frac{5}{x^2+4x} = \frac{1}{x^2+4x} - \frac{x-1}{x}$$

$$16. \sqrt{3x+7} - 1 = 0$$

$$17. 3\sqrt{x} - 12 = 21$$

$$18. -7\sqrt[3]{x}+9=-40$$

$$19. \sqrt[3]{x-8}+18=23$$

$$20. (x+9)^{\frac{3}{4}}-15=12$$

$$21. \sqrt{4x-3}-2=\sqrt{2x-5}$$

$$22. (x-9)^{\frac{3}{2}}-9=18$$

$$23. -3(x+5)^{\frac{4}{3}}+23=-25$$